

WHAT IS CLAIMED IS:

1 1. A computer instruction comprises:

2 a write queue descriptor count instruction that causes a
3 processor to write a single word containing a queue count for
4 each of a plurality of queue entries in a queue array cache.

1 2. The instruction of claim 1 further comprising:

2 an address field that specifies a location in memory
3 of a queue descriptor.

1 3. The instruction of claim 1 further comprising:

2 an entry field that specifies a location of a queue
3 descriptor in the queue array cache.

1 4. A method comprising:

2 in a processor, maintaining a count field for queue
3 descriptors of active output queues current in a memory.

1 5. The method of claim 4 in which the count field is a word.

1 6. The method of claim 4 further comprising:

2 writing the count field subsequent to incrementing a
3 count of buffers for a selected queue.

4 7. The method of claim 4 further comprising:

5 writing the count field subsequent to decrementing a
6 count of buffers for a select queue.

1 8. The method of claim 4 in which the count fields for
2 queues descriptors are stored in a queue array cache.

1 9. Apparatus comprising:

2 a memory containing queue descriptors representing output
3 queues, a queue manager programming engine and a content
4 addressable memory (CAM);

5 a processor connected to the memory, the processor
6 containing a memory controller, the memory controller having a
7 cache containing a queue descriptor array for storing a subset
8 of the queue descriptors; and

9 an array in memory for storing a count of queue
10 descriptors in the subset.

11 10. The apparatus of claim 9 further comprising:
12 a plurality of microengines.

1 11. A computer program product residing on a computer
2 readable medium having instructions stored thereon which, when
3 executed by the processor, cause the processor to:
4 maintain a count field for queue descriptors of active
5 output queues current in a memory.

1 12. The computer program product of claim 11 in which the
2 count field is a word.

1 13. The computer program product of claim 11 further
2 comprising instructions to:
3 write the count field subsequent to incrementing a count
4 of buffers for a selected queue.

1 14. The computer program product of claim 11 further
2 comprising instructions to:
3 write the count field subsequent to decrementing a count
4 of buffers for a selected queue.